Very large-scale operations bring an added level of complexity to the overall command. It is one thing to issue orders to a collection of divisions all occupying the same general location, but another thing entirely to manage multiple army groups, whole armies, or even multiple armies assembled along a front. In such instances, you will likely need to establish special headquarters divisions: a unit unsuited for direct combat, but one that improves the overall supply efficiency of large numbers of forces and gives them a greater likelihood of achieving positive results. When you are considering massive offensives or the defence of an entire front, this special division can have a dramatic effect on the overall success of your operations.

In a larger sense, however, you will always be in ultimate control of your military and it will be up to you to plan your attacks and arrange for suitable defence of your territories. HoI2 includes some handy features that make it as easy as possible to coordinate your forces and use them to maximum effect, and to assign long-term missions that your officers will then proceed to carry out unless you instruct them to do otherwise. Leadership and experience simply help to determine how effective they will be in fulfilling your orders.

Defences and Fortifications

While armed forces are required to protect your territories from the enemy's advances, there are up to three different defence installations that you may be able to construct to help improve your chances of defeating an assault. You can also build radar sites: if you have the required technology: to improve the effectiveness of your aerial defences.

The construction of defences requires a commitment of IC until their production is complete. They can be damaged by enemy attacks: requiring further allocation of resources to repair them: and they can be captured and used against you if they fall into enemy hands. Each of these installations can be added to by further IC investment, increasing their size, quality and effectiveness. This is a worthwhile investment and can become the difference between successfully warding off an enemy's assault rather than succumbing to his advance.

Land fortifications are a network of bunkers, gun emplacements and minefields that you can construct in a province to help your army repel enemy land forces. They are particularly effective in protecting your infantry from tanks, mechanized units and artillery forces where they might otherwise be overrun or destroyed. They also offer some shelter from aerial bombardment although they are not designed to actively counter such attacks. A land fortification offers no resistance by itself and must be manned to have any effect.

Entrenchment bonuses are combined with the land fortification bonuses, resulting in an almost insurmountable defence if a force remains stationary for long enough in a province that has been heavily fortified. A good example of this would be the French Maginot line at the onset of the war (an obstacle that the German high command wisely chose not to attempt with a frontal assault). The only methods of dealing with forces that man such a defence are to bombard them over a long period of time, cut off their supply and hope to starve them into submission, or to take your chances (which aren't good) with a series of massive successive assaults on their position. Paratroopers: if they are available to you: will by-pass defensive fortifications and may be an effective component in an assault, although they incur other penalties and are usually fairly lightly armed. Needless to say, your best bet is to use a combination of all of these strategies whenever possible.

Coastal fortifications are a similar series of trenches, gun emplacements and other devices constructed along the shoreline of a province and must also be manned by your troops if they are to have any effect. They will present a major obstacle to enemy troops attempting to land in the area. Even an elite marine unit will find it hard to break through to establish a beachhead.

Anti-aircraft guns offer a third possible means of defence. Unlike land and coastal fortifications, anti-aircraft guns do not need to be manned by your forces in order to operate (their construction includes a manpower component). Their function is to provide added defence against air missions flown against targets in the province and to disrupt any enemy aircraft that pass overhead. They will not in any way help to defend you against the assault of a ground force or naval invasion. Enemy aerial attacks against factories, infrastructure, bases, other fortifications, or any forces stationed in that province will be subjected to withering return fire from your anti-aircraft batteries. This will not only hamper the inbound flight's organization: thus reducing the impact and extent of the damage from the attack: but it will also most likely inflict a number of casualties as well. Enemy squadrons whose missions cause them to fly overhead will also be subjected to fire, although the effect will be somewhat less.

If you have researched the necessary technologies, you will also be able to build radar sites in your territories. These stations will greatly improve any aerial defence that you mount in that province against enemy bombers and fighters, and may also allow you to detect approaching enemy naval vessels and aircraft in an adjacent sea zone. Radar sites do not need to be manned by your troops to be operational.

Naval and Air Basing

Military vessels and aircraft usually have special require-

ments that necessitate the construction of dedicated port facilities and air fields to fully meet their needs. Hearts of Iron II simulates this using a system called basing.

Each squadron must be assigned to an air base that is located in a province that you control or that is friendly to your forces, and all operations that it conducts must be launched from that base and then return to it after the mission has been flown. If you assign too many air wings to too small a base, then you may find that the ground staff will have trouble maintaining and servicing all of those aircraft in a reasonable period of time. You can either enlarge the base to increase its capacity (although the maximum size is limited) or reassign some of the squadrons to a different base that has sufficient space for them. If there isn't a suitable location then you can also construct a new base to house them: although this will take some time to prepare.

Similarly, naval bases are needed to act as home ports for your fleets. Ships are assigned to them and must return periodically to conduct minor: or not so minor: repairs. Any number of ships may use the same naval base, however a base's size determines how rapidly it can repair those vessels and its location will affect what seas your navies will be able to patrol. Existing naval bases can be enlarged and new ones can be built, again with certain restrictions. There are also many provincial ports that your fleets may use as temporary moorings; however those harbours lack the facilities to carry out any repairs to your vessels or offer them supply.

Bases are susceptible to bombardment or can fall into enemy hands. Enemy aircraft can be given missions to strike at your ports or crater your runways, reducing their basing capacity and forcing you to spend time and resources to repair them. If you lose control of a province that contains a base, then any forces that used it as "home" will find themselves out of supply and forced to rebase…and your foe will be able to use the captured facility as a new base for his forces, once he has effected repairs to the inevitable damage it sustains during its capture. You should pay close attention to the locations of your enemy's bases and either render them inoperative or consider attempting their capture, and you should also take precautions to prevent the enemy from doing the same to yours.

Weather, Terrain and Time of Day

Weather and terrain played significant roles in the historical outcomes of military operations. It was the onset of winter that did much to halt the initial German advance into Russia in 1941, and it was Burma's inhospitable terrain that added a heavy toll to the loss of life in that region. Most military actions also had to be conducted during daylight hours, since target recognition was very poor in an era when human eyesight was (more or less) the only available instrument. All three conditions are taken into consideration in Hearts of Iron II.

Weather is synthesized by the game according to a complex random model and will play a prominent role in your games. Both rain and snow will have a negative effect on your military operations, reducing units' combat effectiveness: in some cases, quite significantly. Combat resolution also includes a "visibility" component which adverse conditions will reduce, unless specialised equipment has been discovered by your scientists and supplied to your forces.

Certain types of terrain will reduce movement speeds, hamper supply, and impose penalties to combat as well. The effect will vary depending on the unit type (generally impacting more severely on motorised units than on foot soldiers), and in most cases the terrain will give a defender an advantage, reflecting his ability to make strategic defensive use of the landscape.

Hearts of Iron II is played on a global stage over a period of years and includes accurate modelling for both local time of day and for seasonal variations in the length of a region's daylight hours. Most units perform very poorly in the hours between dusk and dawn when visibility is poor, so you will need to take this into consideration when planning your attacks. Certain technological advances may mitigate this somewhat, but you will probably have better success if you plan your large-scale operations to begin shortly after dawn during seasons when the daylight hours are long.

Combat

Hearts of Iron 2 does not seek to model combat on a highly detailed, microscopic level. You do not control individual soldiers, squads, platoons, companies or even battalions. In HoI2 you will issue orders to divisions (or whole armies) and your battles will represent a contest for the control of much larger regions of land (provinces) rather than individual beachheads or buildings. The actual hand-to-hand fighting occurs behind the scenes: in your CPU: and your progress is displayed using graphic and numeric feedback as each combat ensues.

Movement is Attack for Land Battles

A significant change in actual battle mechanics has been introduced in Hearts of Iron II. In previous Paradox games: and in many other strategy games, for that matter: a land force would be ordered to engage an enemy in a neighbouring province, move there, and then upon its arrival a combat would ensue. The loser would then retreat from the province and the victor would remain. This is not the case in HoI2. Instead, the game employs the concept of "movement is attack" in all land-based battles.

Combat is initiated as soon as a land force begins to

move towards an enemy province that is being defended. The battle will rage on until one of the sides has gained the upper hand, at which point either the aggressor's movement is discontinued (if it loses) or the defending force begins to withdraw and the victorious attacker conducts its movement into the province and assumes control. This system alleviates a number of common issues (such as being unable to tell where an enemy unit is moving until it is too late) and also offers a number of new operational possibilities for both the attacker and the defender. Forces in adjacent provinces may support the armies involved in the battle, and behind-the-lines reserves may be positioned to make a last-ditch effort to shore up the defences. Air and naval battles, however, do not use this combat method and will contest an air or sea zone while jointly occupying it.

Orders

Particularly if you play a larger nation, you will find that the sheer number and geographic separation of the forces you field can make them a daunting task to manage. To reduce the micromanagement requirements and allow you to focus on the zones of greatest activity, HoI2 allows you to give standing orders to most units. When you are initiating a large-scale assault involving large numbers of units or a combination of land, naval and air forces, you will also need to carefully coordinate these attacks to achieve maximum effect. The game's order interface makes this surprisingly easy to achieve.

Each unit has a useful set of orders that may be given to it beyond the basic "move here" or "attack right now" commands. An available option: which depends on the unit type: is selected on the order interface and then the force will carry out these orders exactly as you have instructed. The specific options are detailed later in the manual, but the concept that you should understand is that the order interface includes the ability to set a date and time that you would like a force to begin an action, allowing you to coordinate the orders of multiple units. In many cases, you will also be able to set a date and time (or operational condition) for it to discontinue operations or even give a unit a set of standing orders to repeat the same mission multiple times, allowing you to focus your attention elsewhere while it goes about its business.

Air and Naval Combat

Air and naval operations do exist, of course, but are abstracted to a greater degree in Hearts of Iron II; otherwise the added level of complexity would be overwhelming to most players. You will usually assign general orders to each air wing or flotilla: giving specific time period and other parameters that you would like it to follow: and you may then pretty much leave it to its own devices to carry out these operations until it receives new ones or the orders expire.

This is not to say that combat won't occur between these forces: it will, and quite frequently at times. When this occurs, there are special rules that govern the engagements which take the types of units involved into consideration, as well as the time of day and weather conditions. Aerial combat is further limited by the range of the aircraft involved, as they will eventually need to break off and return to base to avoid running out of fuel and ammunition.

It is vital to understand that neither sea zones nor the air space above provinces are subject to control in the way that the provinces themselves are. There is no "ownership" of them, and neither aircraft nor naval vessels are capable of capturing a province. Most often you will use them in support of your armies, seeking to soften up an enemy's resistance through bombardment or to hamper: or even cut off: his lines of supply. Combat between them will therefore most likely be a contest to determine whether you are able to carry out these goals.

The Fog of War

This doesn't refer to a weather condition, but rather to darkened regions of the map where the game will hide things from you: particularly the dispositions of armed force: that you aren't in a position to know. It is assumed that you will have sufficient reconnaissance and intelligence sources to determine some basic information about provinces: even in your enemy's territory: but you will be unaware of the location of any forces that don't belong to you and are outside your territory or beyond the sighting range of your units. You will be aware of enemy units occupying provinces adjacent to your troops, but you will usually have only a very vague idea of their complement and size until such time as you engage them. You may also wish to fly several long-range missions deep into enemy territory prior to an attack to gain additional information about possible reinforcements and reserves that the fog of war will otherwise obscure. Keep in mind that some units: particularly submarines: are able to hide their presence, but there are technologies you can research to assist you in detecting and identifying them. Fortunately, your allies will share all of their knowledge of enemy positions (and also their own force dispositions) with you as well.

Strategic Redeployment and the Force Pool

Any new military units you produce will enter your force pool and can then be deployed at your discretion to any valid location. Naval forces and air forces have an additional deployment prerequisite: they must be assigned to specialised bases that are constructed to house and support them. These bases are limited with respect to the number of units they can effectively handle, and this

number can be temporarily reduced as a result of damage from enemy attacks.

Land units that are already in the field may be temporarily withdrawn from active service and strategically redeployed elsewhere without the need to manage their exact movements. As long as they don't have to cross water (which require the use of naval transports and thus active management), they will arrive at their new posting after a period of time. This redeployment method is not possible for naval or air forces, which must be rebased via conventional means.

The Main Menu

To begin playing Hearts of Iron II click Start > Programs > Paradox Entertainment > Hearts of Iron 2 > HoI2 and after a moment or two the opening movie will play. You will then see a status screen displaying the progress as the main game engine is loaded and, once this has finished, you will be presented with the Launch Menu. This gives you the options of starting a single player game, starting a multiplayer game, playing the tutorials, viewing the game credits, or exiting the game.

Single Player Games

Most often you will probably be playing a single player game, pitting your skills against the computer. Click "Single Player" on the Launch Menu and the main menu screen will appear.

Selecting a Scenario or Save Game

When starting a new game you will select from a list of available grand campaign games or battle scenarios (area 1). Grand campaigns games use the entire globe and allow you to play any available nation in the world, starting with each nation's historical position at a significant date in WWII and then progressing until the end date in December 1947.

Battle scenarios are usually more limited in scope, focussing on short, specific engagements and often restricting the nations that may be selected and even the part of the globe that is being used. Many of these scenarios disable some of the game's more complex interfaces, providing the player with only scripted forces, replacements, and resources to accomplish their goals with, and usually having special victory conditions. The battle scenarios are great for playing fairly short "what if" games around major offensives, or for one-time multiplayer games of strategy. For the purposes of this manual, though, I will assume that you have selected a grand campaign game and that all interfaces are available to you.

Game Options

Difficulty: there are 5 levels of difficulty that will apply global modifiers to most aspects of the game (industry, resources, combat, movement, and more). At easy and very easy levels, the AI nations will be handicapped and the player will be given artificial bonuses. At hard and very hard levels, the reverse is true. (You can see and even change the precise modifiers used by looking at the difficulty.csv file in the db folder).

A.I. Aggressiveness: this adjusts how the A.I. reacts to the player's actions during the game, ranging from "coward" to "furious". At furious level, the AI will tend to declare war at the slightest provocation and will be considerably more actively militaristic; while at coward level the AI will tend to be more conservative and generally defensive.

Game Speed: this can be set prior to starting a game or from within the game itself using the "ctrl" and "+" or "-" keys. In a multiplayer game, only the host may change the game speed.

Share Countries: Cchange this to "ON" for a multiplayer game where you wish to allow more than one player to be able to select the same country. This option is disabled in single player games.

Autosave: this allows you to set how often the game will automatically be saved and may also be changed from within the game via the options menu. In multiplayer mode, only the host computer will save the game.

Use Counters: by default HoI2 uses animated sprites to display your units on the map. Enthusiasts may wish to toggle this to "ON" to have units displayed as traditional NATO counter pieces instead.

Once you have begun play you can save your game at any time. To load a saved game, simply scroll through the list of file names (area 2) and select the one you wish to resume.

Selecting a Nation

After you have selected a grand campaign, battle scenario or saved game the nation selection portion of the main menu (area 3) will display up to ten national flags. Click on one of these to select that nation and display a brief overview of its historical situation during that era. If you don't see the flag of the nation you wish to play, right-click on any of the flags to display a list of additional nations and select the one you want. If you still can't find the desired nation, then either it doesn't exist (it has been eliminated from the game due to conquest) or you have selected a battle scenario where that country is not available for play.

Changing the Game Options

At the bottom of the screen (area 5) you will see three buttons. Click the Options button to change the settings to suit your preference (see side bar). If you make a change this will be displayed in the log area of the main menu (area 4). If you don't change anything then the game will use the same settings as the last time you played or will use the default settings if this is your first game. If you made a mistake and intended to play a multiplayer game or tutorial, you can click the Back button to return to the start menu.

Launching the Game

Once you have selected a country and changed any options, click the Start button to begin the game. This button will remain greyed out until you have selected a country.

Multiplayer Games

Multiplayer games are started in much the same way that a single player game is launched; however, there will be at

Connection Types

You will need either a fast Internet connection (DSL/Cable with TCP/IP protocol installed) or a connection to a Local Area Network (LAN) to play HoI2 in multiplayer mode.

LAN: This connection is established automatically by searching for any hosted games on your LAN. Either click "host" or select a detected game and click "join".

Valkyrienet: This is a service provided at no charge by Paradox as both a meeting place for players and a connection handler to make it easier to host or join games. HoI2 also allows the host to set a password that guests must enter to be able to join private games.

Internet: You will need to enter the IP address of the host computer in order to join an internet game. This can change each time the host connects to the internet if it is not a permanent connection. If you are hosting a game you can determine your IP address by establishing an internet connection and then chose Run from your computer's Start menu.

If you are using Win98 or WinME type winipcfg and then click OK and make a note of the IP Address and then communicate it to your guests (via email, IRC or other means).

If you are using Win2000 or WinXP type cmd and then click OK. In the new window that appears type ipconfig. Make a note of the IP address displayed and then communicate it to your guests.

Routers and Firewalls

It is common for computers to be "behind" routers or be protected by firewalls.

Firewalls: vNet and internet multiplayer games use ports 2300-2400, 28800-29000 and 47400-47700 for communication. You will need to make these available to host or join a game. Note that this will result in limited exposure to malicious internet users and that you do so at your own risk.

Routers: since there are many different routers on the market, each with unique software controls, please consult your user manual for details. You will also need to have a network client installed in Windows networking. If you're having trouble, ask for help in the HoI2 Multiplayer subforum on Paradox's website.

least two additional steps to perform before you may begin play. One player will act as the "host" of the game and the other players will join as "guests". Up to nine additional players may join (HoI2 supports a maximum of ten players) and I would recommend that the player with the fastest and most stable connection be chosen for internet games, since this has a greater impact on performance than the host's computer specifications. If connection speeds are equal, then the host should be the player who has computer with the best performance. Only the host may select the scenario or saved game to be played and only the host may change the game options.

When you click the Multiplayer button on the initial menu you will be asked to specify the type of connection you wish to use (see sidebar) and to enter your name. Type your name in the space provided and then click the button that corresponds to the connection type you wish to use. Unless you are using Valkyrienet (vNet) you will then be asked whether you wish to host a game or join a game as a guest. Note that all players must be using the same version of the game (this is checked automatically when the connection is first established to ensure that there are no file discrepancies). I also recommend that you disable any non-essential software that might be running in the background on your computer as this will often affect stability.

The vNet connection will take you to a free service where players frequently meet to start new games. Since vNet supports all of Paradox's games, you will need to select the HoI2 channel from the channel listing which will take you to a chat location where you can arrange a new game. Once you've found a few people to join, you must designate a host. Since vNet can be busy at times and some people have expressed a desire to be able to create "private" games, HoI2 now allows the host to set a password that must be entered to join a game. Once you're ready, the person who is hosting will click the Host button and type in a password. The other players will soon see the game listed and should select it and click Join and then type in the password when prompted. Establishing the connection will be handled by vNet for you automatically. (Note: once you start the game the connection is handed off to the host and the game will disappear from the vNet list.)

Once you've established a connection, the main menu screen will appear, however you will notice a few differences. Saved games will now be found at the end of the scrollable list in the game selection are (area 1) and a listing of all players will now appear in the area at the bottom left of the screen (area 2). I hope that you never need to use it, but the host also has the ability to ban a guest from the game by highlighting the player's name and clicking the Ban button. On a more positive note, you are also able to chat with other players while viewing this screen by typing in the space below the narrow line in the log area of the screen (area 4).

The host may now select the scenario or saved game to be played. If a saved game is chosen, then there will be a brief pause as the game is compressed and then the transfer process will begin to send the save game file to the other players. You will see a status indicator beside each player's name, indicating whether the transfer is still in progress or whether it is complete. I strongly advise players to wait until everyone has completed this transfer before selecting countries, since this is a common source of subsequent problems. Most players who frequent vNet follow a protocol whereby all players wait until the host has confirmed that everyone has completed the save game download. The host will then select a nation which signals that it is safe for the guests to do so as well. I would also advise against using the Windows operating system's Alt+Tab facility during download as this will almost always cause the transfer to freeze or become corrupt. With a decent connection speed, this process shouldn't take very long and you can safely chat with one another while waiting.

You will notice that the game options submenu now allows you to change the Share Countries setting to "yes". This allows more than one player to select the same nation,

which is otherwise prohibited. If two or more players play the same nation (up to the maximum of ten may do so), then each of these players will be able to use any interface or control for that country. There are no limitations to this, so I would recommend you agree on areas of responsibility ahead of time to prevent disagreements during play.

Once all players have selected their nations, the Start button will become active for the host. When the host clicks this, the scenario (or saved game) will be launched on each system and when all players have finished this process (slower systems will take longer to complete the launch) the game will begin. Another vNet custom that I recommend for any multiplayer game is for each player to use the chat feature to type "in" or "here" once the game has launched.

You may also chat with one another during the game by pressing the tab key, typing a message, and pressing the enter key. You have the ability to make your chats "private" by selecting the player (or players) you wish to have receive your communications. For your convenience, there are several preset chat filters that allow you to quickly address messages to the people you wish. After you press the enter key, the chat message will display on the recipient's main game screen and be recorded in his history log.

There are a few other important differences between single player and multiplayer games. The game speed setting may be adjusted during play using the "ctrl" and "+" or "-" keys, but this may only be done by the host. Any player may pause the game at any time but other players may un-pause it after a delay of 30 seconds. Any message boxes or events that would normally cause the game to pause automatically (depending on your message settings) will display normally but will no longer pause the game. Some of these will expire if you don't respond to them and disappear after a period of time. Others will disappear if they are no longer valid.

Tutorials

If you select the tutorial button in the Launch Menu you can play the HoI2 tutorials. For more details, see the Tutorial section near the end of the manual.

Credits / Exit

Click on the Credits button in the Launch Menu to see a list of the many people involved in the design, development, production and betatesting of Hearts of Iron II. The Exit button will quit the game and return you to Windows.

The General Interface

There are very few parts of the HoI2 interface that are visible at all times. The majority of your screen will contain a display of context-sensitive information that will change depending on the type of action you are taking. There is one area: at the top of the screen: that never changes. This provides a quick reference to some of the most critical pieces of game information and also gives you access to all of the principle interfaces. There are also a few other things that aren't directly part of any other interface but have global impact on the game. Taken together, these are best described as "the General Interface".

The Top Bar

This is the area at the very top of the screen that will be visible at all times and displays a quick overview of the state of your nation. It also gives you access to each of the main: and vitally important: interface screens.

Status Overview

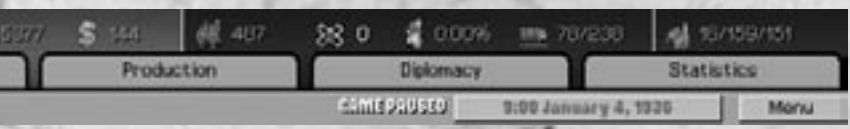
The upper portion of the bar shows a series of icons and values which you will refer to frequently. This allows you to quickly review your reserves of energy, metal, rare materials, oil, supplies and cash. It also displays your manpower pool, national dissent level, and your transport and industrial capacities. Hovering your mouse over any of these will reveal an expanding tooltip that gives you a more detailed summary of that item: particularly your daily income and expenditures. If the daily change is a detrimental one, then the value will be displayed in red. Each is described in detail in the relevant section of the manual.

The Folder Tabs

Immediately below the status overview is a set of clickable folder tabs that give you access to the five main HoI2 interface screens which we'll later look at one by one in the manual. Everything displayed below the top bar depends on which of these folders you've selected.

View Map: Clicking this folder tab displays the interface that you'll use most often: the Main Map Folder. This is used to view the map of the world where you'll find details of your provinces, examine and issue orders to your units, deploy new units, and perform most other common in-game actions.

Technology: This is the Technology Folder, where you will



assign specialized teams to begin working on research projects, and where you may review the technologies that you already have available to you and their effects.

Production: This tab displays the Production Folder where you control your national budget, initiate the construction of new units and industrial and defensive structures for your provinces, and see a summary of such important things as your current trade agreements, convoys and resource depots.

Diplomacy: This tab takes you to the Diplomacy Folder, where you may set your domestic policies, conduct diplomacy with other nations, and view diplomatic and political information about the other nations in the world.

Statistics: This brings up the Statistics Folder: a set of detailed charts that allow you to view summaries of almost all of the important information about your nation, armed forces, and the rest of the world. There are some very handy "redundant" interfaces on these pages that allow you to make a number of similar adjustments very rapidly, and many items are hot-linked to allow you to quickly jump to a province or unit on the Main Map without having to search for it or use one of the other methods of locating items.

The Date/Pause Button

The current date and time are displayed in a button at the bottom right of the top bar. The time shown always reflects Greenwich Mean Time (GMT) and, depending on what portion of the map is presently displayed, could be significantly different from the local time. If you click on this button, the game will pause for as long as you wish. Clicking on it again will resume play. You can also press the pause button on your keyboard to pause and resume.

The Game Management Menu Button

Immediately to the right of the date/pause button is a button labelled "Menu". Clicking this will bring up the Game Management menu where you may select from several options:

Save: Allows you to save your game in its current state. The default file name will be your country, date and time, but you may change this to whatever you like by simply typing in a new name. Once the save is complete you will be returned to the game.

Options: This brings up the in-game options submenu (similar to the new game options) where you may change the game speed, toggle between sprite icons and counters, change your autosave settings, and adjust your sound effects and music volumes. There is also a box at the bottom of this submenu allowing you to change your message settings.

Hints: This turns on the hint boxes that are displayed when the game first launches..

Message Settings

HoI2 allows you to customise the way that messages are displayed. For each type of message you may select it and then set it to display in one of the following ways:

Do Not Display: use this setting to suppress this message from displaying at all.

Display in Log Only: these messages will only display in the history log

Message Notifier: these messages display a small icon on the right side of the screen. Clicking on it opens the message box. (This option is not available for all message types.)

Message Box: this setting is for more important information and will cause messages to appear in a large message box as well as being recorded to the history log.

Message Box with Pause: this setting will bring up a message box and pause the game until you click "okay" on the box. Note that in multiplayer games the autopause function is disabled and this message will simply bring up a message box.

Surrender: This ends your current game session (we all have to sleep sometime). Your current game data is lost when you exit so make sure you've saved first.

Return: Returns to the game.

Message Boxes

You will receive many messages informing you of things that are happening during play. These may be notifications of foreign diplomatic offers; they could be reports from your armed forces advising you that they have engaged in battle or arrived at a destination; they might be reports from your scientists announcing a new technology; or they could simply be an intelligence report about international affairs that may not seem to directly affect you.

Messages can be displayed in several ways, and when you first install HoI2 these will initially be set to certain defaults which you can later change to suit your preference. The most important ones will cause a message box to appear on the screen and will pause the game until you have acknowledged it. Ones that are somewhat less important will be displayed in a message box but will not pause the game. Others will display a small message notification symbol at the right edge of the screen, waiting for you to open and respond to it. Many of these have a time limitation and will blink for a short while before disappearing. Messages that are probably of only minor importance will simply be written to your history log. Those that are likely to be irrelevant to you: notice of a trade agreement being signed between two nations with whom you have no ties: will not be displayed at all.

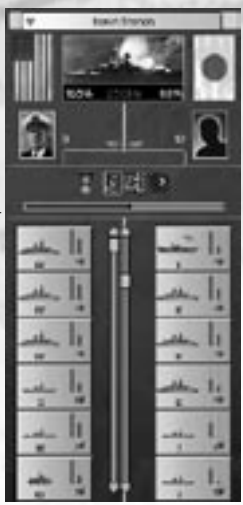
in the same way that land forces are managed, but you should take particular care to ensure that you include at least one screening vessel for each capital ship in a fleet to avoid incurring combat penalties. The varieties of options for selecting fleets are virtually identical as well, except that the listing of all national fleets is accessed through the Naval Forces Hot Button. When you click on the button, the display in the information panel will change to provide a complete listing of all naval bases that currently belong to your nation. You will see two numbers beside the base's name: the base size and its current operational size. Below each base's name you will see a list of the fleets that are currently assigned to use this as their home port, as well as their size and a graphic representation of their current strength and organisation. Just because a fleet is listed under a base does not mean that it is currently located there. It only indicates that this is their home naval base assignment. Allied naval bases will not normally appear on this display, however if you have assigned one of your fleets to an allied base then it will be included in the list until such time as you reassign the fleet to a different location.

If a fleet is carrying out a mission, then its mission box will provide a summary of the mission and a tooltip will give you additional details of the mission's parameters. You may click directly on the fleet name to select the fleet and center it on the map, or you may click on the mission box to assign it a mission directly from this interface. If a small red combat icon appears in this listing, then your fleet is engaged in battle (and thus might be worth having a look at, if you weren't previously aware of this).

Basic Naval Movement

Basic naval movement is done using the normal game controls, but in some ways is even easier since sea zones (the naval equivalent of a province) aren't subject to national control. Right-clicking in any sea zone will order your fleet to move there and attempt to engage any enemy vessels it encounters. If you move multiple sea zones then your fleet will also engage any enemies it meets along the way. There are only two limitations on sea movement:

Fleet range: You cannot exceed the maximum range of the "worst" flotilla in the fleet. Hol2 makes this simple to avoid by prohibiting any order that would take a fleet out of range of its assigned base. When a fleet is selected, you will see a tooltip for each sea zone that displays the fleet's range and the distance from the fleet's naval base to that sea zone.



Denied Zones: There are several sea zones that represent very narrow straits, canals, or channels. Enemy control of the adjacent province will deny your fleet passage through that zone. These include the Panama Canal, Suez Canal, Kiel Canal and Sea of Marmara.

If you wish to move your fleet to a province that contains a port or a naval base, then simply right click on the province. Because there are a several possible options in the way that a fleet and province can "interact," you will see an abbreviated list of these orders. Select the move option to enter the harbour. Even if the province contains a naval base, this will not rebase your fleets; nor will a base or a port that you move to be able to offer you fuel or supplies when you arrive. Ports cannot meet the needs of military vessels and you must use the rebase option to allow a naval base to offer you supply.

As you will soon discover (in the Naval Combat section), opposing fleets do not necessarily engage when they are both in the same sea zone. Each zone represents a fairly large expanse of water and it is entirely possible that two fleets may simply fail to detect one another's presence unless they have excellent spotting capabilities. Even when you have spotted an enemy fleet, it is rarely safe to assume that you've sighted its entire complement of ships.

Rebasing a Fleet

You may assign a fleet to a different naval base by issuing it an order to rebase. If you select a fleet and then right-click on a province that contains a naval base (it must belong to you or to an ally) then the rebase option will appear as one of the options in the context-sensitive list of possible naval missions. A second method of rebasing is click on a fleet's mission box in any interface that displays a mission. Select Rebase from the list of available missions and then select the base you wish to assign from a new list that is displayed of all possible bases. Be careful when rebasing (using either method) because the maximum range is ignored for this order. Fleets will proceed to their new base, but if this exceeds double their range value then: depending on the total distance travelled: they may suffer a very large temporary organisation loss. While it is moving to this new distant base your fleet could be attacked by enemy vessels or aircraft (which could easily have disastrous results).

Basic Naval Combat

Overview

When two (or more) enemy fleets are located in the same sea zone, there is a possibility that a naval battle will ensue. Whether a battle occurs or not depends on whether one of the fleets successfully spots the other and is currently under orders to engage. Like land combats, naval combats represent prolonged engagements that can take some time to resolve. The method of resolving a battle is a bit different, however, due to naval combat's positioning and range concepts. As I mentioned above, both sides are treated as "attackers" when determining the maximum fleet size before there are overstacking effects (see the naval leadership section above). The underlying concepts of attack values, defence values, and combat efficiencies are the same, but the targeting is also handled somewhat differently (and more selectively).

When the fleets first spot one another there will be some distance of ocean lying between them and each fleet will have a starting positioning value. Think of this as being an indication of how well a ship is positioned relative to an enemy in order to bring its main weapons to bear on a target. As the battle progresses, the fleets will begin to close the distance between each other and try to manoeuvre for better positioning: something that will be seriously hampered for a side that lacks sufficient screening vessels. Each ship will begin to fire at the enemy's vessels once the distance that separates it from them is within the range of the ship's weapons. Carriers will usually begin their attacks first, since their weapons (airplanes) have the greatest range; then the battleships will open fire, and then cruisers, and so on. At some point one side will be either sunk or will wish to disengage: though it will take some time to disengage, during which further damage is likely to be inflicted on the retreating fleet. Let's look at the details.

Visibility

Before combat can begin a fleet needs to first detect the enemy fleet. When (or whether) this happens is determined by the visibility and detection abilities of each flotilla, is further modified by their officers' abilities, and can then be reduced by weather conditions. A "spot check" is made periodically until one fleet detects the other, or one of them leaves the sea zone. If a spot check succeeds and the fleet has orders to engage, an enemy combat will begin.

Initiation of Naval Combat

When combat is first initiated, the positioning of each fleet will be determined as well as the distance between them. This depends largely on the officer's skills and on the naval doctrines that have been researched: though weather will also have an impact. You will be notified that combat has begun and the fleet information panel will display a combat quick-view that is similar to the one used for land combats. The same quick view will also be added to Active Combats Hot Button listing. Clicking on the quick view will display the detailed battle view.

Naval Combat Resolution

At first glance, the naval details will look very similar to the land combat version: and in some respects it is. You will see the flags of the nations involved, the leader portraits (with detailed tooltip), the battle status bar and conditions icons, and a complete list of units involved on both sides (also with detailed tooltip). What won't look familiar is the range and positioning information displayed between the two flags, and the very small targeting icons that appears just below the strength and organisation bars of each unit: each of which is an essential component of naval combat (and there are additional vital details in each one of these items' tooltips).

Naval battles progress on an hourly basis. Each hour both commanders will try to manoeuvre their fleets into a more favourable position and will try to attain what each feels is the optimum range to achieve maximum effect. Their skill level and rank will have a great impact on their ability to achieve this, as will having a sufficient number of screening vessels to protect the capital ships.

The starting distance between the two fleets will usually (though not always) be greater than the maximum range of any of their vessels' attacks capabilities, so the first hours of "combat" are likely to be a succession of manoeuvres with the gap between the fleets slowly closing. You can tell at a glance whether a flotilla is in range yet by looking at the small targeting icon. If it has a red bar through it then the range is still too great for it to begin attacking any vessels that the fleet has spotted. You can find out the unit's maximum targeting range by looking at the tooltip that is displayed when you hover your mouse over the icon. The same tooltip will also indicate the flotilla's current attack and defence effectiveness.

The commanding officer will decide upon an overall fleet range that he feels is the optimum separation based on his fleet composition and what he knows of the enemy's fleet composition. He will try to close to this distance and then maintain it throughout the course of the battle. This will be nearly impossible if he has insufficient screening vessels to work with. At the same time, he will attempt to manoeuvre his ships into an optimum attack and defence position. The current distance between the two fleets is displayed in the center of the small black box between the national flags. If you hover your mouse over this value, a tooltip will report the separation that each commander considers to be his fleet's optimum.

Each fleet's current positioning is displayed on either side of the distance value. Positioning will become very critical once the fleets have come within range of one another, so you may want to watch both values as the fleets begin to close to get a sense of the two commanders' relative skill levels as they vie for an advantage. The positioning values will change by small amounts each hour and if you find that yours remains much lower than your enemy's then you may want to break off the combat to avoid sustaining heavy losses.

Once a ship is in range of an enemy fleet, it will attempt to fire upon the enemy vessels. Its ability to do this successfully is based on the positioning of its fleet (not the enemy fleet). If your positioning is 20%, for example, then you will have a 20% base chance of successfully hitting an enemy vessel. If you miss by a very large margin you might even accidentally hit one of your own fleet's flotillas, so the higher your positioning the better. The number of attacks each flotilla may make each hour is determined by its naval attack value.

If a flotilla succeeds in scoring a hit, then its target will be determined. The likelihood that it will target a screening class of ship is based on the enemy's positioning so, for example, if your opponent's positioning is 30% then there's a 30% chance that you will target a screening vessel and a 70% chance that you will target a core vessel. There are a couple exceptions to this rule, though: carriers are very much more likely to target a core vessel; submarines are also very likely to target a core vessel and may decide to withhold fire if they aren't able to do so (until a submarine fires, it remains hidden and will be very hard to spot); and screening vessels will always target an enemy submarine if they are aware of its existence. Screens that are part of a very well-positioned fleet also have a chance, each hour, of detecting a hidden submarine. Even if a hit is scored, it will still be necessary to determine whether (and how much) damage is done to the enemy vessel (based on the same methods used in land combat). Once a ship has targeted a vessel, it is very likely to continue firing at it until it has been destroyed; although there is a possibility that is will switch targets: particularly if a "preferred" target presents itself.

As the battle progresses, the flotillas will gradually suffer loss of organization or be sunk. When the organisation of a flotilla drops low enough, the flotilla will break and attempt to withdraw. Just as in land combat, a fleet that has more than 50% of its flotillas in retreat will break off combat automatically and attempt to sail out of range. Enemy ships will continue to fire on them until the maximum range of all enemy ships has been exceeded, at which point the combat will reach its conclusion. You may, if you wish, manually order your fleet to break away at any time by selecting it and ordering it out of the sea zone.

Time of Day and Weather Effects on Naval Combat

Just as with land combat, night time hours and poor weather conditions are generally very bad for naval combat. Positioning will be greatly affected and there is a significant reduction in the chance of inflicting damage. Unlike land combat, however, the defender and attacker suffer equal penalties, unless one has a technological advantage over the other in this area. Carriers will be highly ineffective in poor weather, since their CAG's are severely penalised in these conditions. In very adverse weather (storms and blizzards), CAGs cannot fly at all.

Out-Of-Supply Effects on Naval Combat

If a fleet is operating without supplies or fuel, then it would be well advised to turn tail and run as soon as it becomes aware of an enemy presence in a sea zone. If it stays and fights, it is probable that it will suffer a particularly humbling defeat and will be very lucky if it manages to escape in anything larger than a life boat.

Force Composition Effects

I have stressed the importance of having a good balance of screening vessels to support your capital ships, but I will do so again. You will receive a positioning penalty unless you have at least one screen for each capital ship. Your capital ships will also be unable to maintain a safe engagement distance from the enemy, and are thus far more likely to be sunk.

End of Naval Combat

Once the fleets have disengaged from combat, the vanquished fleet must retreat from the sea zone. This will be to a randomly selected adjacent zone that is usually (but not always) in the general direction of its base. If there is a friendly port or naval base adjacent to the sea zone then it will retreat there instead. The victor of the combat may elect to stay in the sea zone or continue whatever mission it was engaged in when "interrupted" by the combat. Unlike land combat, sea zones are not assigned control so no territory changes hands.

Enemy Occupation of a Port or Base

If an enemy land force manages to gain control of a naval base or port that contains a fleet, then that fleet will be scuttled. Any fleets that are assigned to a naval base that is captured will be un-based and will rapidly lose supply and organisation until they have been given a new, valid base assignment. Your personnel will sabotage the naval base before fleeing, though, so it will take a little while before the enemy will be able to make effective use of that facility.

Naval Orders

Overview

When a fleet isn't in port, it is fairly rare that you won't want it to be doing something: anything: rather than just sitting around in a sea zone. Submarine packs will probably be used to disrupt enemy convoys and transport movement, surface fleets will want to continually patrol certain portions of the ocean…and for a player with a large number of fleets, this would quickly become a nightmare of repetitive mouse-clicking. Heart of Iron II allows you to do this if you really want to, but it also includes a number of extremely useful naval missions in the Naval Orders interface that allow you to automate such routine chores. There are also some specialised naval orders that usually require an element of either timing or special targeting: for instance a carrier may send its planes to attack a province's naval port facilities or its air bases and you will need to identify which of these is your intended target. The Naval Orders interface allows you to do this as well.

In most cases, you will issue "standing orders" to carry out a mission for a specified period of time, under certain conditions, and in a particular part of the world's oceans or possibly against a target province's assets or forces. Once you've issued the orders, you can largely leave those fleets to their own devices: even if they run into an enemy force: which goes a long way toward eliminating the micromanagement and complexity that would otherwise plague a naval nation. An additional reduction to potential micromanagement is the assumption of additional support vessels that will resupply and refuel fleets that are on an assigned patrol. Rather than forcing you to keep track of the distance each fleet has travelled and then return it to base, naval missions are restricted to targets that are within the mission range of the fleet and they will only need to return to base for repairs or upgrades (or for a faster rate of organisation recovery).

All of the naval orders may be accessed by selecting the fleet and then either holding down the ctrl key and right-clicking on the target or by clicking in the naval orders box in the information panel. The second of those methods will display every naval mission that is available (some may not be, due to fleet composition or insufficiently advanced technology levels) and will usually require you to specify a target zone, area or region from a list of valid potential targets. After selecting the target, the Naval Orders interface will appear. If you use the "ctrl and right-click" method to issue an order, then only context-sensitive missions will be displayed and the Naval Orders interface will appear as soon as you have chosen the mission (since you have already identified the target by clicking on it).

Naval Orders Interface

This interface is used to set specific mission parameters whenever you issue a naval order. We will see an identical set of controls when we take a look at the possible Air Orders.

The top portion of the interface has three toggle buttons on the left (day/night/both) that are used to specify when a fleet should initiate combat after detecting an enemy. You should probably keep this set at "day" for most naval combat missions (unless you have advanced night technologies), since most vessels perform very poorly in the dark. To the right of these buttons, you will see a slider where you may set the condition parameters for the mission. This is used to establish a minimum level of strength that each flotilla in the fleet must maintain in order for the mission to continue. If any flotilla's strength level falls below this value, then the fleet will return to its naval base for a period of time: until all flotillas in the fleet have been repaired to a suitable strength level: and then resume its mission.

The lower half of the interface allows you to adjust the mission's time parameters, possibly delaying the date that it should begin the mission and setting its duration by assigning an end date. The default values are usually for the mission to begin immediately and to continue for one month, but these can be changed to whatever values you desire by clicking the appropriate "+" and "-" buttons. If you have recently set parameters for another fleet's mission, then the default settings will be identical for the next fleet's mission. Once the mission is complete, the fleet will return to its assigned naval base to await new orders. If you use HoI2's default message settings, you will be given a mission status report when it arrives back at its base, informing you that it is ready for new orders. This message has a "select" button that allows you to quickly select the fleet and issue it a new mission.

Rebase

I've already described this order, so I'll simply remind you that moving a fleet to a new naval base or to a port will not reassign it to be based there. You must use the rebase order.

Move
This order is one of the available alternatives when "targeting" a province. This instructs the fleet to enter the port or naval base of that province, but since this is not its assigned naval base it will not take on any fuel or supplies. The move order is most often used to send transports to a port to pick up a land division for a subsequent sea transport or amphibious assault mission.

Attack
Although this isn't a mission that you can select from the menu, this is the mission type that will be displayed when you use a simple right-click to move a fleet to a new sea zone. The fleet will move to that sea zone via the most direct path and will engage any enemy vessels that it encounters there. Because it is steaming at full speed to its destination it is quite unlikely that it will spot an enemy fleet during its voyage, but it will engage any that it manages to detect.

Naval Interdiction
This is a naval order that instructs your fleet to patrol the sea zones within a particular area. It will randomly move through those zones and will initiate an attack against any enemy surface fleets it encounters. The chances of it spotting a fleet are slightly less than the chances of it doing so when stationary in a single sea zone, however this allows you use a single fleet to cover a somewhat larger area of water (but you are less likely to spot any submarines).

Naval Combat Patrol
This order is nearly identical to the naval interdiction order; however, a naval combat patrol is designed to cover a much larger section of the ocean. It will move randomly through the sea zones in a specified region, but because it is covering a much larger region it is somewhat more likely that an enemy fleet: and particularly enemy submarines: could escape its detection or slip by it unobserved.

Convoy Raiding
This order instructs your fleet to patrol a sea area with the primary purpose of disrupting enemy commercial shipping. Any enemy convoys that trace their path through a sea zone that is currently patrolled by a navy with this mission must attempt to slip past the patrol. There is a reasonable chance that at least some of them will fail to do so and will be sunk: although if they are accompanied by escorts then their chances increase significantly. These limited actions are not displayed as battles in the game, but are reflected by a reduction in the convoy efficiency and trade efficiency values that are displayed in the Production Folder. A country that relies on foreign shipments and trade to obtain the necessary resources is in great danger from this action: as are any troops that depend on those convoys for their supplies. Submarines are particularly effective at this mission and should be feared by all merchant vessels. Caution though: A fleet that engages in this order will not attempt to detect an enemy's naval forces.

Anti-Submarine Warfare (ASW)
Since enemy submarines pose a terrible threat to your supplies, you may wish to issue a fleet an order to patrol a sea area and specifically look for submarines. This mission is ideally suited to light cruisers and destroyers, which are particularly good at locating and engaging submarines, though this reduces the likelihood that they will spot and engage an enemy surface fleet.

Shore Bombardment
Shore bombardment is an order that can only be given to a fleet that contains at least one capital ship (heavy cruiser or larger), and is only used to support invasions. The fleet will be instructed to train its main batteries on the specified province during an amphibious assault, which will result in the enemy receiving a penalty to both attack and defence effectiveness during the battle. This can help to considerably offset your landing force's invasion penalties.

Carrier Port Strike
This order may only be given to a fleet that has at least one carrier with a CAG attachment. The carrier's airplanes will be ordered to attack an enemy port or naval base and attempt to sink any ships that are docked there (but they usually lack the armaments to damage the base itself). Enemy fighters and AA defences in the vicinity are likely to take exception to this action; and this mission cannot be flown at all if the carrier is located in a sea zone that is experiencing very adverse weather conditions.

Carrier Airbase Strike
This is also an order that may only be given to a fleet that has a CAG attached to a carrier. This order is the same as the Air Mission "Runway Cratering" (explained in the Air Combat section below) and is an attack against a province's air base in an attempt to reduce its operational strength. Again, keep an eye on the weather, and on any enemy AA and fighters in the vicinity.

Sea Transport
A sea transport mission is used to transport land forces to a friendly port once they have been loaded on board the vessels. They will unload automatically upon reaching their destination.

Amphibious Assault
This mission is used to instruct transport vessels to take the land forces they are carrying to a sea zone just off an enemy province, in preparation for an invasion. When

the transports arrive in position, the land troops will then automatically begin their invasion of that province. To invade a province from the sea, the province must have a suitable area for the troops to land: which is indicated by the presence of a beach icon on the province's shoreline. It is not possible to invade a province that does not have a beach. If you prefer, you may load troops on the transport and then manually position the vessels in the adjacent sea zone. Then click the unload button on the transport and then select the province you wish your land forces to invade.

Amphibious assaults are conducted in the same manner that normal land battles are handled, however there are significant penalties for the invading forces (although considerably less for marines) and it is a province's coastal fortifications rather than its land fortifications that will assist the defending troops in repelling the attack. Be aware that launching a successful large scale naval invasion is extremely difficult since each division participating in the invasion will increase the total amount of the invasion penalty. If the beach is well defended, then you will probably need to conduct a very strong aerial and naval bombardment campaign in support.

Advanced Naval Strategies

It is arguable that Hearts of Iron II's greatest combat emphasis is on land battles; however you should not discount the importance of your navies. Land troops are nearly useless without supply, and in many cases this supply must be traced across water and is in jeopardy of enemy anti-convoy activities. Those same actions will also cut of sources of natural resources and greatly reduce trade efficiency, resulting in a shortage of the materials needed to keep your industrial base operating at maximum capacity. Tactically, therefore, it is prudent to patrol your convoy routes and dispatch any enemy vessels you may find there; and also to employ this technique to weaken your enemy before attacking.

There will be instances where your land combats take place in coastal provinces with beaches. Don't underestimate the potential impact of launching an amphibious assault as part of that combat, and supporting it with naval bombardment: particularly if you can arrange for a large number of capital ships to shell the enemy position. The extra shore bombardment and envelopment penalties to the enemy land force's effectiveness could easily swing the battle in your favour.

Naval invasion is a risky affair, although one that may reap great rewards if the location and timing are well chosen. Remember that land force encirclement will cause great losses to enemy organisation so it may be worth considering a naval "flanking" manoeuvre to get in behind an enemy defensive line rather than trying to assault it directly. If you must make a direct assault: usually because the target is an island with no alternate means of approach: it is better to be patient if possible. Try blockading the target for a while with a fleet devoted to destroying convoys. The enemy supply depot will probably dissolve fairly quickly and his organisation with then begin to drop. Then, after a little preliminary aerial bombardment, your forces can move in with support from your capital ships' shore bombardment.

Just as land divisions may block a handful of narrow straits, naval vessels are able to prevent land forces from crossing them as well. Don't miss this great opportunity to hold an enemy at bay (particularly in the Pacific island chains) until you are able to assemble the necessary forces to begin making direct attacks against those pockets of resistance or launch a full scale invasion of your own.

The Air Forces

Overview

Air Combat in Hearts of Iron II is a blend of the land combat and naval combat systems. Air forces are assigned missions to patrol the skies for enemy aircraft, or to conduct extended bombing campaigns against enemy ground forces, installations and infrastructure. Air transports: normally used by your paratroopers: can also be used for temporary air supply of encircled forces if absolutely necessary. These missions are assigned through an order interface that is virtually identical to the one we just looked at for naval orders. Combat between aircraft, though, is handled much more like land combat, but with only a limited number of combat rounds being possible due to limitations in fuel. Never underestimate the devastation that will occur if you lose control of the skies.

Air forces, like navies, must be assigned a base from which to operate and may only land in provinces that have such a base. Like naval bases, air bases have limited available space to handle a flow of aircraft, so exceeding this

limitation will greatly reduce the flow of supplies and fuel, and will significantly increase the length of time required to complete repairs and technological upgrades.

Air Force Types

Air forces are made up of individual air wings, each of which represents a number of similar-type airplanes that have an area of expertise. The Air Combat equivalent of a division is called an Air Wing (or wing). Groupings of wings are usually called squadrons or sometimes air groups or air forces. The precise wording will vary somewhat from nation to nation, but their function is identical. For the purposes of this section I will use the term "squadron" when referring to any combat group of air wings.

Air wing types can be categorised by their size, range and general function. Strategic bombers are the largest of these and are relatively slow-moving aircraft that can carry very large bomb loads over fairly great distances. Their missions are usually flown against large fixed emplacements such as infrastructure, factories, fortifications and other such targets that require the impact of larger payloads and have no ability to avoid being hit. Tactical bombers are somewhat smaller and more manoeuvrable, specialising in precise targeting which is much more effective against moving targets (land forces). Close Air Support craft are inexpensive, very short range dive bombers which can inflict very high casualty levels on ground forces, but are unable to defend themselves particularly well against either ground defences or other aircraft. Naval Torpedo Attack Planes are land-based aircraft that are specially outfitted with munitions suited to attacks against naval vessels and convoys.

The smallest, fastest and most manoeuvrable aircraft available fall under three different general types: fighters, interceptors and escorts. Escorts are the slowest of the three types, but they also have the greatest range, so they are suited to the task of escorting bombers. More than anything their function is to tie up enemy fighters and distract ground defences, allowing the bombers they escort to succeed with their missions. Interceptors are the bomber pilot's worst nightmare. This airplane has excellent weaponry and speed for bringing down the larger aircraft, but is limited by its range and manoeuvrability. The fighter is something of a multi-role aircraft. It has slightly greater range and slightly better attack capabilities than an interceptor but is much more likely to be shot down itself. It can also participate in limited attacks against ground and naval targets, but is unable to stand much in the way of return fire.

There is one last class of "wings" that are ordered from the Air Wing menu of the production folder. These are the flying bombs and flying rockets that historically began with the German V1 and V2 and would eventually (in the post war years) lead to ICBMs. All of these are included in HoI2's technology tree (since some war technology is deemed possible, although difficult to attain) and are handled through the Air Combat interface.

Air Wing Details

The sprites for squadrons are only displayed on the main map when they are in flight, so they can be a little harder to locate and select until you are used to handling them. You can easily spot an air base with a squadron in it because it will be blue in colour instead of grey. You will also see the squadron listed in the information panel when you select a province that contains one. The Air Forces Hot Button displays a complete list of all squadrons and their current base assignments and is probably the fastest and most convenient method of rapid selection.

You can access the Air Wing Details information panel by selecting any squadron and then clicking on one of the wings. As with land and naval divisions, the data displayed in the information panel will reflect any technological upgrades that this unit has received, so it may vary slightly between otherwise identical units. I will not provide a detailed description of any data listed here that is equivalent to a land or naval division's statistics.

Air Wing Name: Assigned automatically, you may change this to anything you like.

Air Wing Type: Below a representative picture of this class of airplane you will see a description of its type and specific model.

Commander: The commanding officer of the squadron this wing has been assigned to. You can click anywhere on this bar to return to the squadron details.

Squadron Strength and Organisation: A graphic display of the percentage strength (orange bar) and the percentage organization (green bar) of the entire squadron. An expanding tooltip gives precise details of these values.

Squadron Name, Size and Order Box: The name and the number of wings in the squadron. If the squadron is currently executing orders, then a summary will be listed in the order box. You may assign a new order by clicking on the box and selecting a new mission from the scrollable list.

Location Details: The current location of this air wing.

Strength: The wing's current combat strength.

Organisation: The wing's current organisation.

Morale: The wing's current morale.

Strategic Attack: This is the attack value against strategic targets such as infrastructure, factories, fortifications and other provincial assets.

Soft Attack: The attack value used when conducting tactical attacks against soft land targets.

Hard Attack: The attack value used when conducting tacti-

cal attacks against hard land targets.

Naval Attack: The attack value when this wing attacks a naval target.

Air Attack: This is the attack value used when the target is another aircraft.

Surface Defence: This is the defence value used when being fired upon by AA, land forces or naval forces.

Air Defence: This defence value is used when the wing is being attacked by another aircraft.

Maximum Speed: The wing's maximum speed.

Supply Consumption: The daily supplies required.

Fuel Consumption: This wing's daily oil consumption rate when in flight. It will use no oil when on the ground.

Range: The wing's maximum range is the maximum distance it can travel from its base. When combining wings into squadrons, the wing with the shortest range will determine the squadron's range.

Sea Detection Capability: The wing's ability to detect naval vessels.

Air Detection Capability: The wing's ability to detect other aircraft in the vicinity.

Experience: This wing's current experience level.

Effective Supply Efficiency: The wing's current ESE value.

Attach/Detach Nuke: This button will only appear once you have achieved a technology level that allows you to deploy a nuclear bomb on a rocket or strategic bomber. Clicking it will ask you to confirm that you wish to remove a bomb from your nation's nuclear arsenal. If you confirm this, the next mission flown by that unit will include the option to deliver the bomb against the target. You may later detach it and return it to your arsenal, if you wish. The button will be greyed out unless the wing is able to carry a nuclear bomb.

Disband Button: Click this button to disband the wing and recoup some of its manpower.

Squadron Details

The Squadron Details information panel is nearly identical to the one used for naval commands, including the squadron's current base assignment and operational range. The set of primary statistics listed for each wing are (in order from left to right) the values for air attack, naval attack, soft attack, hard attack, strategic attack, air defence, and surface defence.

Leadership

Officers perform a similar function for squadrons as they do for both ground and naval forces. Each leader in your officer pool will have the ability to control between one and twelve wings at a time: depending on his rank: without incurring a penalty for overstacking. Air officer ranks are similar to their land force counterparts, with a Maj. General being able to command 1 wing, a Lt. General may command up to 3 wings, an Air General may command up to 9 wings, and an Air Marshal may command as many as 12 wings. Since air combat, like naval combat, occurs in a single air zone, the stacking, skill and trait effects are handled in exactly the same way as they are used in naval combat. Defending officers' leadership ratings do not stack to allow larger numbers of wings since, for these purposes, there is no defender.

Leader Traits

Air officers: may also possess a special trait that will improve the combat abilities of the squadrons they command, although these are forfeited if the leader is overstacked.

Tank Buster: This officer excels at commanding squadrons that primarily attack tactical land targets such as tanks, mechanised infantry and motorised infantry.

Superior Tactician: This officer is a combat ace, inspiring his squadrons to exceptional performance in air-to-air combat.

Spotter: An officer with this trait can spot a needle in a haystack. He is particularly good at aerial reconnaissance, reporting enemy force strengths with remarkable accuracy.

Carpet Bomber: Ideally suited to command squadrons of strategic bombers, this officer has a proven record of effective attacks against large provincial structures such as factories and infrastructure.

Night Flyer: An officer with this ability will negate many of the normal penalties for flying night missions against targets of all sorts.

Fleet Destroyer: The tricky timing of pulling out of a steep attack and releasing a torpedo takes a special sort of skill… and this officer certainly has it. Naval vessels beware!

Air Bases

The rules that governing air movement and basing are very similar to those of the naval bases. Each squadron must be assigned to an air base and may only land in a province that contains one (you may use either your own air bases or those of an ally). If you station more wings at a base than the size of the base allows, then you will suffer from reduced rates of strength and organisation recovery, and it will take longer to upgrade your aircraft to the latest technology. Airfields may be damaged by enemy aerial attacks, with runways becoming too cratered to accommodate the normal allotment of aircraft (although this can be repaired over time by allocating IC to reinforcement).

You can review the size and operational status of a base by selecting a province that contains a base and then hovering your mouse over the airbase symbol. A tooltip will inform you of the maximum base size and its current effective size (which will be lower than the total base size